

I am sending the final draft of the National Report on the Implementation of the UNCCD, which was approved by the Minister of Ministry of Agriculture, Forestry and Fisheries, based upon the result the National Workshop taken place by the 4<sup>th</sup> week of April 2000.

I am very apologize for late sending of the hard copy and file zip of the said report and annexes (7 maps), due to technical problem in printing house. However, an extra copies (05) of the report were made, and forward to you by DHP, probably on Wednesday 14 June 2000.

Thank You

## **KINGDOM OF CAMBODIA NATION RELEGION KING**

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### **NATIONAL REPORT ON THE IMPLEMENTATION OF THE CONVENTION TO COMBAT DESERTIFICATION**

#### **I- MAJOR ECOSYSTEMS OF CAMBODIA**

The natural ecosystems of Cambodia consist of tropical forests, rivers, lakes, and coastal areas. Man has influenced these natural ecosystems over thousands of years. Forest has been cleared to create Rice Growing Land, thereby giving rise to rice ecosystems. The movement of humans to live in cities, towns and villages is known as urbanization. These towns and cities can be described as urban ecosystems.

The major bioclimatic regions described in the 1997 Biodiversity Prospectus are: coastal and mountainous areas of the Southwest; central plains which include the Great lake of the Mekong and the surrounding areas, and northern and North-Eastern areas.

The temperature of the hottest months is high (with 41°C maximum on April) and the temperature of the coldest months average 25°C in the lowlands and 20°C in the uplands. Rainfall varies between 1,500-2,000mm in the lowlands and higher than 3,000mm in the uplands. The dry season is four months long, December to March. Most of the land is still covered by forests (see attached annex-1).

#### **1-1- RICE ECOSYSTEMS OF CAMBODIA**

The rice ecosystems are among the most important terrestrial ecosystems to the Cambodian population in terms of food security. As in any other ecosystem there are living and non-living components and rice is undoubtedly the most important living component of the ecosystem.

Rice ecosystems in Cambodia as in elsewhere are influenced by rainfall/flooding patterns, soil suitability and the country's topography. As a result Cambodian rice growing ecosystems can be grouped into the following broad categories:

1. Rainfed lowland rice or wet season rice
2. Deepwater or floating rice
3. Rainfed upland rice or Chamkar rice
4. Dry season irrigated rice

### **Rainfed Lowland Rice**

Rainfed lowland rice represents 86% of the total annual rice cropping area of Cambodia. It is characterized by flat bounded rice fields, which are depend almost entirely rainfall or surface runoff for their water supply. The varieties grown by farmers in the rainfed lowlands are dependent on factors such as local traditions and practices and water depth on the fields. In the higher fields where the water depth is 15-20cm, short duration (fast growing) varieties are normally grown, in the lower fields where the water depth is 20-60cm, medium and long duration varieties are normally grown. In general, farmers tend to mach varieties to the availability of water in the area.

### **Deepwater or Floating Rice**

Deepwater rice areas can be classified as low lying areas and depressions that accumulate flooded water to a depth of between 50cm and a maximum of 3m for at least one month during the growing period. Deepwater period rice production areas accounts for only 4% the total annual rice cropping area in Cambodia. These areas are located mainly around the Tonle Sap Lake and along Mekong and Basac rivers.

### **Rainfed Upland Rice**

The area under rainfed upland rice cultivation accounts for 2% of Cambodia's total annual rice cropping areas. Upland rice areas are unbounded fields in the mountainous and rolling hill areas of Cambodia (Mondulkiri, Rattanakiri, Kratie, Koh Kong, Kampong Cham and Kampong Thom). In the shifting cultivation areas of the Northeast of Cambodia upland rice is an integral part of the "chamkar-farm". The ethnic minority groups practice this type of cultivation is almost exclusively. Permanent upland rice production is commonly practiced by Khmers where a field of rice is grown annually either on it's own or as an intercrop or in rotation with other upland crops.

Noteworthy to emphasizes that base upon such kind of shifting cultivation (swidden or slash and born culture) has destroy many thousands hectares with an average estimation of 3,500-5,000ha/each province of 19 in single year not

included the calculation from some targeted provinces, where the non-sustainable harvesting are very intensive.

### **Dry season Irrigated Rice**

Dry season production accounts for 8% of the total cropping area in Cambodia. The distribution of dry season production is primarily in those areas close to the major rivers and their floodplains. Dry season rice production is associated with higher yields than wet season production due to higher solar radiation, better water control and the cultivation of more fertilizer responsive varieties.

### **Nutrient Calculation**

The nutrient calculation in rice fields is governed by the various nutrient cycles (carbon, phosphorus, nitrogen cycles etc.). There is still a net deficit being returned to the various nutrient cycles. This nutrient deficit results in a need to supplement the natural cycle by adding inorganic fertilizers such as Urea or Di-Ammonium Phosphate (DAP) to make up for the nutrient shortfall that has been removed by the previous crops.

Ideally, practice would be to grow crops in rotation such as one crop, which remove a lot of nutrient from the cycle followed by a crop, which restores or contributes some nutrients to the cycle.

## **1-2- WETLANDS**

The majority of Cambodia's freshwater wetlands are found around the Tonle Sap Lake and along the Mekong River and its tributaries. They comprise the Tonle Sap Lake, other permanent lakes and swamps and annually inundated flood plains. The total wetlands area increases nearly ten-fold from about 0.5 million ha in the dry season to 5 million ha in the wet season (July-September) in an average year. The Tonle Sap Lake alone increases four-fold in area from 250,000 ha in the dry season to about 1,000,000 ha in an average year, and to about 1,350,000 ha in a wet (heavy rained) year. The surface of the lake was reported to have from 2,700 km<sup>2</sup> during the dry season to approximately of 16,000 km<sup>2</sup> at the maximum level of flooding and the water level depths vary between 1m in the dry season to 9m in the wet season (Guiscafre, 1963). The total wetland area in an average year represents nearly 28% of the total area of the country (181,035 km<sup>2</sup>) and in a wet year it could be as high as 35%. Beside the wetland areas mentioned above there are other three areas in which have been considered to be important for biodiversity. These include the Tonle Chhmar, the wetland in Steng Treng, which is spread from north part of the province to Cambodia-Laos border and the Koh Kapeh.

## **1-3- RIVERS AND LAKES**

World wide, freshwater habitats are very limited in area, with inland lakes covering about 1.8% of the Earth's surface and running water in rivers and stream covering about 0.3%.

However, the Mekong River - Tonle Sap system dominates the hydrology of Cambodia. The Mekong River rises in the Tanghla Shan Mountains in the Tibetan, Plateau and flows through Myanmar, Laos, Thailand, Cambodia and Vietnam. A further 10-20% from the Sesan, Srepok and Sekong in North-Eastern of Cambodia and the remaining 10% from the rivers that drain Cambodia into the Tonle sap Lake (Pantulu, 1986). Eighty six percent of the land of Cambodia lies within the catchment of the Mekong River.

The Tonle Sap Lake, also known as the Great Lake, lies in the center of Cambodia and is connected to the Mekong River at the Chak Tomuk by the Tonle Sap River. The Great Lake is the largest permanent freshwater lake in Southeast Asia. The Tonle Sap - Mekong River system has a unique hydrological feature. Each year during the wet season the Tonle Sap River reverses its direction allowing the flooded water of the Mekong to flow into the Great Lake (see annex-2).

## II- THE STATUS OF LAND USE AND ITS CHANGES

Human activities are continuously changing and affecting land and the landscape. In this context, the rapidly increasing world population has placed great demands on the available living space in many countries. In Cambodia, business interest takes precedence over small-scale farmers, forcing many subsistence farmers to give up their land to be replaced by industries or commercial farms with require skilled or semi-skilled workers.

Based upon the above listed issues, make many farmers loss their own plots and start to clear the new-forest land for farming activities. With in return, the shifting cultivation causes the lost of soil fertility, damages the soil structure and/or the cost of their agricultural products is not expected to their labor expense. Finally, they become no more reliance on agricultural performance and leave the farm to seek for job opportunity in-by factories in cities. This in return gives rise to many urban problems.

The total land area of Cambodia is 181, 035km<sup>2</sup>. Land is managed and used in many different ways, as is shown in table below:

Type of Land Cover	Area (km <sup>2</sup> )
Forest	112,842
Paddy Fields	26,097
Other Vegetation	25,057
Upland Crops	4,665
Water Surfaces	4,111
Swidden Agriculture	856
Plantation	746
Barren land	336
Field Crops	299
Receding Rice Fields	293
Orchards	188
Urban area	45

Other	n/a
Total	<b>181,035</b>

The Soil units Described in Cambodia and the Total Area of Each Occurring  
(1992-1993)

Soil Unit	Area (ha)	Proportion of Total Soil Area
Latosols	666,800	4%
Planosols	182,00	1%
Plinthitic Podzolics	1,701,700	10%
Cultural Hydromorphics	1,121,400	6%
Gray Hydromorphics	1,793,000	10%
Plinthitics Hydromorphics	117,400	1%
Brown Hydromorphics	657,700	4%
Aluminols	245,200	1%
Relurs	627,000	4%
Acid Litosols	4,577,600	26%
Basic Litosols	484,100	3%
Alluvial Soils	1,708,600	10%
Brown Alluvial Soils	219,000	1%
Lacustrine Alluvial Soils	1,114,900	6%
Coastal Complex	230,000	1%
Great Lake	n/a	n/a
Red-Rellow Podozols	n/a	n/a
Total Soil Area	18,1035,00	100%

## 2-1- LAND USAGE AND FERTILIZER USE

### 2-1-1- Land Usage

The cultivated area 21% is mainly concentrated in the lowland around the Tonle Sap Lake and in the South of the country, on the North side of the Mekong River. The Uplands crop/fruit garden occurs especially along the banks of the main rivers.

In contrast of the distribution of the cultivated areas the forest and other natural vegetable are found in the northeastern, in the Northern and in the southwestern parts of Cambodia.

The total forest areas, which is before were about 13,320,100ha (covering 73% of the land areas, before 1970s) of which 47,622.30 are dense evergreen broad leafed forest (consisting of 26% of the total forest land). Deciduous forest of Cambodia occurs mainly in the North Eastern parts of Cambodia.

In comparison to historical data, the total area of forest has decreased from 13,320,100ha to about 10,638,209ha (more or less 58 %, 1998, DFW) or 2,681,891ha, since 1970. In consequence, the releasing of free lands off agriculture are confronted to loss its resilience and fertility.

The main constraints rely to soils in crop production in Cambodia are:

- The lost of soil fertility in cultivated areas cause from poor soils management and cultural practices
- Devastation and its erosion cause from the process of deforestation and shifting cultivation of ethnic groups in uplands slope
- Drought and flood cause to soil degradation and erosion
- High concentration of acidity and/or salinity in some dry season rice production areas
- Large change fluctuation of environment as increase big gape of temperature cause to soil moisture content and soil fertility
- Farmers have a very limited input to improve soil fertility
- Low literacy cause the constraints to adopt the new modern technology to improve soil fertility
- Unavailability of credit in rural areas to purchase fertilizers
- Poor fertilizer application and use cause the destruction in soil structures and soil texture
- Low understanding of pesticides and use high level and/or excessive use) of pesticides are affect the micro-organism in the soils and soil fertility compositions
- Relatively poor research and extension on soil conservation and improvement
- poor extension services on soils and lands management
- Lack of irrigation systems, poor water management and poor drainage
- Lack of mechanization for land preparation and other farms management
- All inorganic fertilizer are imported
- Lack of registration to control fertilizers and pesticides
- Lack of draught power for land preparation and providing organic manure
- Farmers are grown mono-culture and single crop per year
- Lack of security discourages farmers from settling in large areas, land mine in many parts of the country prevent cultivation

### **2-1-2- Fertilizer Use**

Fertilizer application, together with modern varieties, irrigation and other improved management practices has been driving the growth in food production in South-East Asia over the past 25 years. Fertilizer use in Cambodia, however, has been very small as compared to the other countries in the region. Cambodia farmers applied between zero and 8,000tons of organic fertilizers (NPK) per annum in the period 1965 to 1990, but with upwards of 40,000tons per year had been applied for the last two years (FAO unpublished data). This compares with over 500,000 tons to 1,000,000 tons that being used in other neighboring countries in 1990. Indeed of given the impoverished nature of soils in mach to the rice growing areas the fertilizer use in Cambodia will likely to continue to increase.

### **2-2- THE CHANGE IN AREAS OF RICE FIELD ECOSYSTEMS**

There exists some changes in extent of rice fields (rainfed and receding rice) is presented in the table below:

Period	Rainfed Rice (km <sup>2</sup> )	Receding Rice (km <sup>2</sup> )	Total (km <sup>2</sup> )
1973-1976	25,290	n/a	25,290
1992-1993	26,097	293	26,390
Increase	807	293	1,100

Source: Cambodia's Land Cover Atlas, 1994

The main causes for rice ecosystems changes are observed to be from basic factor: warfare, population growth, poverty, security issues and development trends. It is basically ascertained that the economic development, mainly in the agriculture sectors, has been much more intensified during last decade, controversy sometimes to the wise use concepts or sustainable development (for examples: rice fields expansion, over-fishing, over-grazing). This can be revealed through the clearance and/or transference of natural forested lands into agricultural lands/rice fields and other croplands. This can lead to the dramatic degradation and loss of vital habitats for wildlife, especially loss of significant species of flora and fauna. Subsequently, the great economic loss could be expected. Unfortunately, the exact figure in this regards is not available, due to lack of studies and researches.

According the above table the areas for paddy fields can be depicted as followings:

- 26,097km<sup>2</sup> for rainfed rice and 293km<sup>2</sup> for recession rice during 1992-1993
- 25,290 km<sup>2</sup> for rainfed rice during 1973-1976

The figures above presented, can reveal a negligible area of recession rice during 1973-1976 and a relatively small of rainfed rice, if compared to that during 1992-1993. Accordingly, there exists a total increase of 1,100 km<sup>2</sup> that is distributed as 807 km<sup>2</sup> for rainfed and another 293km<sup>2</sup> as the formation of receding rice in that period.

It is to conclude that the change is expected as result of destruction of flooded forest, vegetated wetland, for conversion to another freshwater habitat, rice filed. However, for species composition change, there is very poor information and data. There is also non-estimation on the number of rice species in the past and at the present time, other from assuming many traditional planted or native rice have been replaced by some news namely introduced species (IR-42, IR-46...).

### **2-3- THE CONFLICT USES OF AREAS**

There have been presently conflicting uses of rice fields, as due to various development practices:

- Agricultural developments: rice and other crops harvesting (traditionally) and rice-fish farming

- Industrial development: many rice fields have been filled for constructions of factories, manufactures and handicrafts, building of many new settlements and other as well

- Other building and infrastructures

## 2-4- THE IMPACT ASSESSMENT TOWARDS HUMAN ACTIVITIES

In Cambodia, the major root causes of soil erosion are deforestation, poor agricultural activities (shifting cultivation) and gemstone mining activity in the area of border between Cambodia and Thailand. The high erosion has taken place at the North-East mountain ranges and high plateau along main tributaries of the Mekong River, and at the North-West high plateau, where sediment flows into the Tonle Sap Lake.

The soil erosion in the North-West highland, where the illegal deforestation and gemstone mining, illegal mining activities had and have continued to play the major root of sedimentation in the Tonle Sap Basin and siltation in the rivers, especially in the Tonle Sap Great Lake. The direct impact is on the overall environment of the Lake particularly on fish production and on the long-term impact of reduction the capacity storing water in natural watershed, as in correlation with the reduction the areas around Tonle Sap Basin for deeper floating rice. The sedimentation of Lake has reportedly increase dramatically in the last two decades. In the 1960s sedimentation rate of 2cm per year were recorded (FAO, 1991). However, during the years follow the level of sedimentation is reported to be significantly increase (non official data). The Increased sedimentation rates of the Lake are attributed to the number of factors including: deforestation in the upper reaches of the Tonle Sap watershed and the flooded forest, gemstone mining in Pailin City, and increase in Mekong silt load due to deforestation in other parts of the Mekong Basin. These distribute the flows to the Mekong Delta in Southern part of Vietnam and discharge into the South China Sea.

Besides the sedimentation of the Lake, the soil erosion in the mountain ranges also causes water in some estuary of coastal line becoming a shallow from year to year. However, the sedimentation survey in the rivers of the coastal has never been conducted yet.

### Area Statistics, 1992/93 Cambodia's Land Cover

No	Legend	Classes	Areas (ha)	%
I	Urban/cities	U	4,500	0.03
II	Cultivated Areas		3839800	21.72
1	Paddy Fields	Ar	2639000	14.60
2	Mosaic of Upland Crops	Au	1182000	7.00
3	Mosaic of Fields Crops and Fruit Garden Areas	Ao	18800	0.12
4	Plantation (Rubber)	Ap	74600	0.45
III	Forest		12015100	65.40
1	Evergreen Forest	Fe	4763300	26.30
2	Coniferous Forest	Sc	9800	0.05



3	Deciduous Forest	Fd	4301200	23.70
4	Mixed Forest	Fx	977300	5.40
5	Secondary Forest	Fs	517000	3.00
6	Flooded Forest	Ff	630500	2.00
7	Mangrove Forest	Fm	85100	0.50
8	Woodlands	St	656300	4.00
IV	Other Vegetation		1849400	10.35
1	Shrub Lands	S	1604300	8.85
2	Grass lands	G	245100	1.50
V	Other Lands Usage		444700	2.50
1	Water Surfaces	W	411100	2.30
2	Barren Lands	Br	36600	0.20
	Total		18153500	100.00

(Land Cover Map, see attached annex-3-4)

## 2-5- LAND ISSUES IN CAMBODIA

Among the problems associated with land in Cambodia are the small numbers of farmers, who hold title over the land they live and work on; and the fact that priority is often given to business development over farmers.

Another area of concern is the reclamation of areas of wetland (in the name of development) that is essential for storage of flooded water.

One of the major concerns regarding public land in Cambodia is the number of leases and concessions that have been made in recent years. Problems to the granting of these leases and concessions include:

- a lack of policy framework and accurate information to guide land use allocation;
- selling of national assets for very low prices to businessmen and foreign investors;
- the commitment on the development of agricultural crops in the land concession areas not been done by many investors and/or stakeholders from both local and external
- short term gains for investors which do not benefit the central economy;
- medium and long term environmental, social and economic costs are unknown;
- no map showing the concessions granted;
- lack of assurance that right to the concession or lease are exclusive;
- lack of consideration for local people who live in or near concessions and who depend on natural resources for their livelihood;

The suggestion for optimizing use of Cambodia's land resources include:

- incorporate social, environmental and economic costs when considering the benefits of any land development;
- consider the public assets for future generations needs;
- introduce and implement measures to protect soil and water resources (to prevent floods, ensure safe water supply, and protect farm production);
- ensure capability of land-use allocation with local communities who use or need access to the same piece of land.

One of the most important and perhaps most controversial, issues with regard to land resources in Cambodia is ownership of land which is known as land tenure. The law that governs land tenure at the present time is 1992 Land Law for the State of Cambodia. A new Law is being prepared, but has not yet been presented to National Assembly for consideration.

According to the 1992 law:

- all the land in Cambodia belongs to the State and is to be governed and protected by the government;
- only property rights from 1979 onwards are recognized;
- Cambodian people have the right to possess and use land, and to profit from production on the land they use;
- Cambodian people have the right of inheritance on the land they possess and use;
- any mineral deposit, cultural or historical sites on Cambodian land are the property of the state;
- private possession of land is not permitted in forestry reserves, fisheries reserves, water reservoirs, cultural and historical sites, deeps forest areas, schools, park, other public building, land reserved for road construction and maintenance, rail-road, rivers and sea.

### **III- THE SOCIO-ECONOMIC IMPACTS**

However, today's Cambodia not only can not provide rice into the external market, but also does not produce enough rice for local consumption too. In the question of why Cambodia faces food shortage? The answer is many: the large population growth, while the agriculture land is continued to decrease has long been a major driving growth in demand. The chronic continuation of civil war, which is lead to the massive destruction in economic and social infrastructures, but the more predominant of its was the drastic changes in natural conditions, in which farmers could not adapt to its changes. For example, during the years when Cambodia was one of rice exported country, the soil fertility was much higher as compared to now. There weren't an application of any kind of chemical, organic and/or any combination of both fertilizers for rice production. There also weren't an application of such technology input such as integrated pest management at any both of mechanical, biological and chemical, e.g. rice production during that time relied fully on natural condition and its potential. In contrast, today we give much effort to reach an objective of food security and poverty alleviation. The considerable high yields could be achieved only by strong intervention of

above mentioned inputs, for example, hundred thousand tons of chemical fertilizer has been used in a single year, IPM, improving irrigation system and agricultural extension.

#### **IV- THE IMPLEMENTATION OF THE NATIONAL POLICY ON THE IMPLEMENTATION OF CCD (Legal, Institutional and Management Aspects)**

##### **4-1- LEGAL ASPECTS**

The constitution of the Kingdom was adopted in September 1993. And over two dozen laws have been adopted since 1993, including the land management, urbanization and construction law, and the laws establishing the rights and responsibilities of various ministries. There are many other laws that are still awaiting execution by Parliament.

##### **4-1-1- Existing Legislation Related to Environmental Management**

The development of environmental legislation is one of the National priority and, at present, the law on Environmental Protection and Natural Resources management can be considered the framework for subsequent sectional laws, decrees, sub-decrees, and regulations for environmental protection and natural resources management.

The legislation is believed to cover most important sectors that have been and/or being addressed to date. It is separated into pre-1993 (when the new government was formed) and post-1993.

##### **A- Pre-1993 Laws:**

##### **Decree - law on the management of fishery areas**

This law (state council No 33) passed Seri 1987, defines fisheries categories, fishing areas and season.

##### **Decree - law on the management of the forest areas**

This law ( State Council No 35) passed in June 1988, defines types of forests and state that : forests are divided into classified and protected forests limitation of forest boundaries and forest uses are to be determined by sub-decree and regulations : all sectors of society are obligated to protect forests, exploitation for forest products without a permit is prohibited, logging operations are subject to government tax and protection of forests, hunting of all species of animals is prohibited, with enforcement by the Department of Wildlife, and any person violating the law shall be fined or imprisoned according to the seriousness of the violation.

##### **B- Post - 1993 Laws:**

##### **- Law of Land Management, Urbanization Planning**

## **and Construction**

This law, passed by the National Assembly soon after its formation, elaborates the law's intent and states in matters directly impacting the natural environment.

### **- Law on Environmental Protection and Natural Resource Management**

This law had passed into the National Assembly on November 18th, 1996. And promulgated by the King on December 24 th, 1996. In response to that the war just came to an end in 1999, the national park, protected areas for wildlife and biodiversity ... etc. were seriously in destructive conditions, and seeking for both external and local credits for re-inventory and further solid measures for rehabilitation and sustainable natural resources development.

### **- Sub-Decree on Construction Permission**

This Sub-Decree was passed by National Assembly in 1997, to be managed proper of land use and natural resource.

### **- Royal Decree on Creation and Designation of Protected Areas**

The King Decree was approved on the 1 November 1993. This Royal - Decree defines the Ministry of Environment as the responsible entity for supervising the planning and development of National Protected Area System incorporating the protection of terrestrial, wetland and coastal environment .The national protected Areas System includes national parks, wildlife sanctuaries, Protected landscapes and Multiple use Management Area (see annex-7).

## **RATIFICATION OF INTERNATIONAL CONVENTIONS**

### **- Cambodia is a party of following international conservation**

- MARPOL 73 / 78 and its annexes No I to V;
- International convention on civil liability for oil pollution damage (CLC, 1969);
- RAMSAR convention 1971;
- World heritage (Paris 1972);
- Climate change (Rio de Janeiro 1992);
- Biodiversity convention;
- Agreement on the cooperation for the sustainable development of the Mekong Basin (1995).
- Convention to Combat Desertification (August 18, 1997)
- CITES (1996)

The Government of Cambodia should establish legal instruments and define responsible institutions for implementing these international conventions and agreements, but there exist also a lack of appropriately qualified personnel to analyze these conventions.

### **C- Basel Convention:**

The Basel Convention is new to Cambodia. Cambodia will be a party of this convention but it needs more information on the scope of the convention and how it is relevant to Cambodia.

### **D- Forestry Law**

This law being prepared by the National Commission on Forestry Policy Preparation and Reform, Ministry of Agriculture, Forestry and Fisheries (Department of Forestry and Wildlife), and will be submitted to the National Assembly by the end of 2000.

As regarding with the forest management, the Ministry of Agriculture, Forestry and Fisheries has prepared many laws, sub-decrees, declarations and/or paper works such as:

- Decree No-35 (25 June 1988) on the Forest Management
- Code of the Practice for Forest Harvesting in Cambodia
- Declaration No-01 dated on 25 January 1999 on the Management Measures and Depression of Anarchy Activities in Forestry
- Declaration No-06 dated on 27 September 1999 on Depression of Anarchy Activities in Land Clearing for Title
- Sub-Decree No-05-ONKR-BK dated 07 February 2000) on the Forest Concession Management (see annex-5-6)

### **E- Mining Law, Petroleum Exploration Law and Factories Law**

These laws were submitted to the council of Ministers for reviewing and will be adopted by the Government this year and then it will be submitted to the National Assembly.

The draft of mining law stipulate the responsibilities of the government agency issuing mining permits and control of the mining exploration activities. All of the mining activities covered under the draft law would be subject to environmental protection requirements including preparation of an environment protection plan prior to mining activities and implementation of the during operations.

In addition to the Mining Law, the Ministry of Industry Mine and Energy established Draft laws: Law on petroleum exploration and Factories law. These laws are being reviewed by the Council of Ministers.

## **4-2- INSTITUTIONAL AGENCY**

The Government agencies responsible for water resource management are following:

- 1- Ministry Agriculture Fishery and Forestry

- 2- Ministry of Environment
- 3- Ministry of Rural Development
- 4- Ministry of Land Management, Urbanization Planning and Construction
- 5- Ministry of Water Resource and Meteorology; and
- 6- Other Institutions concerned

Due to these issues we have also Provincial and Municipal Departments of Environment, district and local levels responsible for it. However, we still have constrains on these matters, as following:

- Lack of definition of roles and responsibilities of, and relationships between institutions,
- Lack of physical capacity and resources for enforcement,
- Low appreciation of and understanding of the national for management and conservation measures,
- Weak capacity for policy formulation and strategic planning, and
- Flow and use of existing data and information, both among the administrative levels and among government departments.

## **V- THE STRATEGIC POLICY ON THE IMPLEMENTATION OF THE CCD**

### **5-1- The Mitigation of Drought and Flood**

The Kingdom of Cambodia is fully depending on the Agricultural Sector, and its play as the main fundamental base of the development, because more than 80% of Cambodia Population are farmers. In this regards the Royal Government of Cambodia has foreseen that the major issues of social stability in which the main work is "Water Policy" (53 projects has been launched in 13 provinces and municipalities from 1998-2006.

The actions take toward the afforestation and reforestation happen in many parts of Cambodia, for example afforestation projects in Takeo, Svay Rieng, Kandal, Prey Veng and the reforestation projects in Takeo, Svay Rieng, Kampong Cham, Kampong Chhnang and Siem Riep.

### **5-2- The Collaborative Activities with International Agencies**

How does economic growth benefit the environment? Growth raises expectations and creates demands for environmental improvement. As income levels and standards of living rise and people satisfy their basic needs for food, shelter and clothing, they can afford to pay attention to the quality of their lives and the condition of their habitat. Once the present seems relatively secure, people can focus on the nature.

Therefore, and in order to foster efforts aimed food self-sufficient in Cambodia a major concern relates to agricultural growth rates and food (rice) availability from domestic production many solid measures and policies (laws) strongly foreseen at national level. To reach these goals and objectives the Ministry of

Agriculture, Forestry and Fisheries pays much attention on Human Resources Development and Institutional Strengthening through Capacity Building. Improvement of Agricultural Infrastructure (irrigation and roads) that many base upon Technical Assistance, Grant Aids and/or loans from FAO, IMF, WB, ADB, USAID, AusAID, JICA, DANIDA, EU, IFAD, MRC-International, UNESCO and other donor communities as well. For the long-run sustainable development non-paradoxically needs sustainability in natural resources management. In this context, the Law in Forest Management Reform (Forest Concession Law), Law in Community Forestry, many other as regulations and PRAKAS such as Depression of Anarchy Activities in Forestry, had and have been prepared in close technical assistance with foreign experts from World Bank, Asian Development Bank and many other from International Community such as FAO, GTZ, OXFAM, JICA.

In fact, the development of community forestry-community forestry is a relatively new concept in Cambodia. The two best-known community forestry project that have been successfully implemented are an MCC project in Prey Ler, Takeo and the concern project in Kampong Chhnang. A recent proposal by six hill-tribe villages in Rattanakiri is also an interesting example of a potential community forestry project. This report uses the MCC project as an example of community forestry in Cambodia. Moreover, the Participatory Natural Resource Management in the Tonle Sap Region, Tree Planting Program (FAO - GCP/CMB002/BEL) in Siem Reap already started for an extent and came-up with a considerable outputs. And the ongoing of Empowerment of Women in Irrigation and Water Resources Management FAO/CMB/L/99 will be as key tools to Improve Household Food Security, Nutrition and Health.

### **5-3- Future Recommendations Policy on the Implementation of CCD**

To achieve Sustainable Growth- growth consistent with the needs and constraints of nature-we need to secure the link between environmental and economic policies at all levels of government and in all sectors of the economy. Harmonizing economic expansion with environmental protection requires a recognition that there are environmental benefits to growth. However, today's Cambodia is not in the full capability (both technical, financial and institutional) to combat desertification, therefore, the following policy recommendations should be taken for future:

1. The more clear policy concerned should be developed
2. Immediate enforcement of the national economic (both micro- and macro-economy)
3. Foster building human capital
4. Institutional Strengthening, improving the coordination between pipe line ministries
5. Build the close cooperation with: UNCCD-NETWORK, UNESCO, GEF and other international community concerned

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